

Notice of Allowability

Application No.

10/713,543

Examiner

Shawntina T. Fuqua

Applicant(s)

KESTEREN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application received 11/14/03.
2. ☒ The allowed claim(s) is/are 1-71.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/29/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Shawntina Fuqua
Patent Examiner
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Examiner's Statement of Reasons for Allowance

1. Claims 1-71 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither discloses nor suggests in combination with the other limitations of the independent claims a heat treatment apparatus/method of individually processing a series of substrates comprising a temperature regulator which has a first computational component configured to generate one or more trigger signals resonant with a frequency of the heat treatment cycles and a second computational component configured to calculate a control set point to partially determine the power setting for the heater and to receive the trigger signals and to calculate a new control set point using the temperature readings and to hold the new control set point until the calculation is triggered again by a next trigger signal; a substrate loading signal generator configured to trigger a loading of one of a series of substrates into the reactor when one or more of the plurality of heating zones reaches a desired processing temperature, one or more temperature controllers for regulating the boundary surface temperature wherein the one or more controllers is configured to receive the boundary surface temperature readings and to calculate, at a recalculation frequency resonant with a loading frequency of each of the series of substrates, a next control set point for each heating zone for a next one of the series of substrates; a temperature regulator for controlling the process temperature and to receive a throughput indicating a desired processing throughput and to calculate and to output, after the loading of the one of the series of substrates is triggered, a new control set point to the heater based partially upon the throughput input and the instantaneous actual throughput; monitoring the chamber for a

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calculation condition wherein meeting the calculation condition triggers a calculation of a new control set point based on one or more process temperature readings, and calculating the new control set point, wherein calculating is performed at a frequency resonant with a substrate loading or unloading frequency, wherein the control set point is held until the calculation condition is met again; and calculating and applying only one new control set point during each substrate cycle wherein the new control set point is determined based upon the desired treatment temperature, the measured treatment temperature, and the desired heat treatment throughput for the series of substrates.

Conclusion

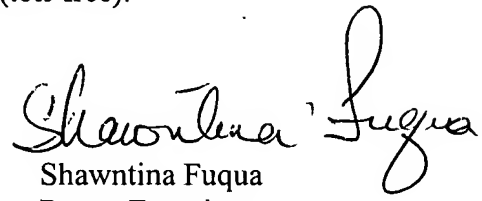
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawntina T. Fuqua whose telephone number is (571) 272-4779. The examiner can normally be reached on Monday-Friday 8-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

stf
March 4, 2005


Shawntina Fuqua
Patent Examiner
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